

WHAT IS CLAIMED IS:

1. A document processing system for processing a plurality of currency bills to be deposited in a financial account of a customer, the currency scanning device
5 comprising:

a scanning device having

an input receptacle adapted to receive a plurality of currency bills,

an image scanner adapted to obtain an image of at least one side of a
currency bill and to extract a serial number field from the image,
10 the image scanner being adapted to create an image file
containing the image of the currency bill and the serial number
field,

a transport mechanism adapted to transport each of the plurality of
currency bills, one at a time, from the input receptacle past the
15 image scanner, to at least one output receptacle,

a controller coupled to the transport mechanism and the image scanner,
the controller adapted to control the operation of the transport
mechanism and the operation of the image scanner,

an evaluation unit adapted to determine the denomination of each of the
20 currency bills, the evaluation unit being coupled to the
controller, and

a memory communicatively coupled to the controller, the memory
having stored therein at least one serial number associated with
counterfeit currency bills, wherein the controller is adapted to
25 retrieve the at least one serial number from the memory and to
compare extracted serial numbers to the at least one stored
serial number, wherein the scanning device is adapted to reject
any currency bills having a serial number matching a serial
number in the database.

2. The system of claim 1, wherein the plurality of currency bills is a stack of
currency bills.

3. The system of claim 1, wherein the output receptacle is a single output receptacle.
4. The system of claim 1, wherein the output receptacle includes a first output receptacle and a second output receptacle.
5. The system of claim 1, wherein one of the first and second output receptacles is an off-sort receptacle.
6. The system of claim 1, wherein the output receptacle is a plurality of output receptacles.
7. The system of claim 6, wherein the plurality of output receptacles include one off-sort receptacle.
8. The system of claim 1, further comprising a stacker wheel comprising flexible blades positioned to restack documents in the output receptacle.
9. The system of claim 1, wherein the image scanned is a full image of the entire currency bill.
10. The system of claim 1, further comprising a control panel communicatively coupled to the memory and adapted to provide an indication if the extracted serial number of the currency bill matches a serial number on the list.
11. The system of claim 10, wherein the control panel comprises a display screen.
12. The system of claim 10, wherein the control panel comprises a light and wherein the control panel provides an indication that a currency bill has been flagged as a suspect counterfeit bill by causing the light to blink.
13. The system of claim 1, wherein the system is adapted to flag a currency bill having a serial number matching a serial number stored in the memory.

14. The system of claim 13, wherein the system is further adapted to halt the operation of the system if a currency bill is flagged.

15. The system of claim 14, wherein the controller is further adapted to continue the operation of the system if a currency bill is flagged.

16. The system of claim 15, further comprising a display panel, the display panel adapted to display an image of a flagged currency bill to an operator.

17. The system of claim 1, wherein the system is further adapted to test the currency bill as being genuine by using a counterfeit test, the counterfeit test utilizing at least one of ultraviolet testing, infrared testing, magnetic testing, thread testing, and image comparison testing.

18. The system of claim 17, wherein the system is further adapted to flag a currency bill that does not pass the counterfeit test.

19. The system of claim 18, wherein the controller is further adapted to halt operation of the system if a currency bill is flagged.

20. The system of claim 18, wherein the controller is further adapted to continue the operation of the system if a currency bill is flagged.

21. The system of claim 18, wherein the controller is further adapted to add a reason for the flag to the image of a currency bill that has been flagged.

22. The system of claim 18, wherein the controller is further adapted to add the results of the counterfeit test onto the image of a currency bill.

23. The system of claim 1, further comprising an interface coupled to the controller and adapted to automatically communicate with a financial institution, the financial institution being adapted to credit a financial account belonging to the customer substantially immediately.

24. The system of claim 1, wherein the transport mechanism feeds the currency bills in a direction that is perpendicular to a longer edge of the currency bills.

25. The system of claim 1, wherein the transport mechanism feeds the currency bills in a direction that is parallel to a longer edge of the currency bills.

26. The system of claim 1, wherein the transport mechanism is adapted to transport the currency bills at a rate of between about 300 to about 400 bills per minute.

27. The system of claim 1, wherein the transport mechanism is adapted to transport the currency bills at a rate in excess of 600 bills per minute.

28. The system of claim 1, wherein the image scanner is further adapted to extract and store a denomination of the currency bill.

29. The system of claim 1, wherein the image scanner is further adapted to extract and store a Federal Reserve Bank number of the currency bill.

30. The system of claim 1, wherein the image scanner is further adapted to extract and store a signatory on the currency bill.

31. The system of claim 1, wherein the controller is further adapted to add a date of deposit onto the image file.

32. The system of claim 1, further comprising a second input receptacle adapted to receive a plurality of checks.

33. The system of claim 32, further comprising:

a second image scanner adapted to obtain an image of a side of each of the checks and to extract an amount from each of the checks, the second image scanner further adapted to create an image file containing the image of the side of the check and the amount;

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10 a second transport mechanism adapted to transport each of the checks, one at a
time, from the second input receptacle and past the image scanner to a
second output receptacle;
wherein the memory is further adapted to store the image file of each of the
checks; and
an interface coupled to the controller and adapted to automatically
communicate with a financial institution, the financial institution being
adapted to credit a financial account belonging to the customer.

34. The system of claim 32, wherein the input receptacle, the image scanner, the
transport mechanism, the memory, and the controller are in a first housing, the system
further comprising a second housing having:

5 a second image scanner adapted to obtain an image of a side of each of the
checks and to extract an amount from each of the checks, the second
image scanner further adapted to obtain a check image file containing
the image of the side of the check and the amount;
a second transport mechanism adapted to transport each of the checks, one at a
time, from the second input receptacle and past the second image
10 scanner to a second output receptacle;
wherein the memory is further adapted to store the image file of each of the
checks; and
an interface coupled to the controller and adapted to automatically
communicate with a financial institution, the financial institution being
15 adapted to credit a financial account belonging to the customer.

35. The system of claim 34, wherein the first housing further comprises a value
entry means adapted to receive an input from a customer indicating the amount of a
currency bill being imaged by the image scanner.

36. The system of claim 35, wherein the value entry means comprises a plurality of
denomination keys.

37. The system of claim 35, wherein the value entry means comprises a keyboard.

38. The system of claim 35, wherein the value entry means comprises a numeric keypad.

39. The system of claim 37, wherein the second housing further comprises a display adapted to display an image of a check, wherein the amount of the check is unable to be determined by the second image scanner.

40. The system of claim 39, wherein the value entry means comprises a plurality of denomination keys.

41. The system of claim 39, wherein the value entry means comprises a keyboard.

42. The system of claim 39, wherein the value entry means comprises a numeric keypad.

43. The system of claim 1, wherein the input receptacle is exactly one input receptacle adapted to receive both currency and checks and the output receptacle is exactly one output receptacle.

44. The system of claim 1, wherein the input receptacle is exactly one input receptacle adapted to receive both currency and checks and the output receptacle is exactly two output receptacles.

45. A method for processing currency bills to be deposited in a financial account belonging to a customer using a document scanning device having an image scanner, the method comprising:

receiving a stack of currency bills into an input receptacle;

5 transporting each of the bills, one at a time, from the input receptacle to at least one output receptacle;

obtaining an image of each of the currency bills with the image scanner;

extracting a serial number from each of the images of the currency bills;

creating an image file containing the full image and the extracted serial number;

comparing the extracted serial number to a list of serial numbers associated with counterfeit bills and stored in a memory of the currency scanning device; and
storing the image file in a memory.

46. The method of claim 45, wherein the output receptacle is exactly one output receptacle.

47. The method of claim 45, wherein the output receptacle is exactly two output receptacles.

48. The method of claim 45, wherein the output receptacle is a plurality of output receptacles.

49. The method of claim 45, further comprising halting the operation of the document processing device if the extracted serial number matches a serial number stored on the list.

50. The method of claim 45, further comprising alerting a customer if the extracted serial number matches a serial number stored on the list.

51. The method of claim 45, further comprising discriminating the denomination of the currency bill if the extracted serial number does not match a serial number stored on the list.

52. The method of claim 51, further comprising crediting the financial account of the customer based upon the denomination of the currency bill.

53. The method of claim 45, further comprising:
inserting a plurality of checks into the document processing device at the input receptacle;
transporting each of the plurality of checks, one at a time, from the input receptacle and past the image scanner;

obtaining an image of a check as the check is transported past the image
scanner;
storing the image in a memory;
discriminating the amount of the check; and
10 updating the financial account of the customer based upon the amount of the
check.

54. The method of claim 53, wherein the output receptacle is a single output
receptacle.

55. The method of claim 53, wherein the output receptacle includes a first output
receptacle and a second output receptacle.

56. The method of claim 55, wherein the first output receptacle is adapted to
receive on-us checks and the second output receptacle is adapted to receive transit
checks.

57. The method of claim 55, wherein the first output receptacle is adapted to
receive currency bills, and the second output receptacle is adapted to receive checks.

58. The method of claim 53, wherein the output receptacle is a plurality of output
receptacles.

59. The method of claim 53, wherein the input receptacle comprises a first input
receptacle and a second input receptacle, and the first input receptacle is adapted to
receive currency bills and the second input receptacle is adapted to receive checks.

60. A document processing system for depositing currency bills in an account of a
customer at a financial institution, the document processing system comprising:

a plurality of scanning devices, each of the plurality of scanning devices having
an input receptacle adapted to receive a stack of currency bills, an
5 image scanner adapted to obtain an image of a side of each of the
currency bills and to extract information from each of the currency bills,

10 a transport mechanism coupled to the input receptacle and adapted to
transport each of the currency bills, one at a time, from the input
receptacle, past the image scanner, and to an output receptacle, each of
the scanning devices further having a controller coupled to the image
scanner and the transport mechanism and adapted to control the
operation of the image scanner and the transport mechanism, and a
memory including a list of information, wherein the controller is
adapted to compare the list of information to the extracted information,
15 and wherein the memory device is further adapted to store the image
and the extracted information.

61. A currency scanning device for accepting currency bills from a customer
comprising:

a scanning device having
an input receptacle adapted to receive a plurality of currency bills,
5 an image scanner adapted to obtain an image of at least one side of a
currency bill and to extract a serial number field from the image,
a transport mechanism adapted to transport each of the plurality of
currency bills, one at a time, from the input receptacle past the
image scanner, to at least one output receptacle,
10 an input device adapted to receive an account number from the
customer,
a controller coupled to the transport mechanism and the image scanner,
the controller adapted to control the operation of the transport
mechanism and the operation of the image scanner, the
15 controller further adapted to create an image file containing the
image of the currency bill, the serial number field and the
account number;
an evaluation unit adapted to determine the denomination of processed
currency bills, the evaluation unit coupled to the controller,
20 a memory coupled to the controller and adapted to store the image file,
the memory being configured to be searchable by serial number
so that when a serial number is found to be associated with a

counterfeit bill, the memory can be searched for an image file containing the serial number of the counterfeit bill; and

25 a processor coupled to the scanning device and adapted to read an
account number from an image file containing a serial number of
a counterfeit bill, the processor further adapted to debit a
financial account associated with the account number for the
denomination of the counterfeit bill.

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62. A method for processing currency using a currency scanning device having an image scanner, the method comprising:

receiving a stack of currency bills into an input receptacle of the scanning device;

s transporting each of the currency bills, one at a time, from the input receptacle
 to an output receptacle;

obtaining an image of a side of each of the currency bills with an image scanner;

extracting a serial number from each of the currency bills;

10 creating an image file containing the image, the extracted serial number, and an
 account number associated with a financial account that will be credited
 with the currency bill;

storing the image file in a memory;

crediting the financial account of the customer based on the denominations of the currency bills; and

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debiting the financial account if it is determined that credit was given for any counterfeit bill.

63. A document processing system for processing a plurality of currency bills to be deposited in a financial account of a customer, the currency scanning device comprising:

a scanning device having

an input receptacle adapted to receive a plurality of currency bills,
an image scanner adapted to obtain an image of a side of a currency bill
and to extract a predetermined field from the image, the image

scanner being adapted to create an image file containing the image of the currency bill,

- 10 a transport mechanism adapted to transport each of the plurality of currency bills, one at a time, from the input receptacle past the image scanner, to at least one output receptacle,
- a controller coupled to the transport mechanism and the image scanner, the controller adapted to control the operation of the transport mechanism and the operation of the image scanner,
- 15 a discrimination and authentication unit adapted to determine the denomination of each of the currency bills and to perform counterfeit testing on the currency bills, the discrimination and authentication unit being coupled to the controller, and
- 20 a memory communicatively coupled to the controller, the memory adapted to store at least one predetermined field having stored therein at least one predetermined field associated with counterfeit currency bills, wherein the controller is adapted to retrieve the at least one predetermined field from the memory and to compare extracted predetermined fields to the at least one stored predetermined field, wherein the scanning device is adapted to reject any currency bills having a predetermined field matching a predetermined field in the database.
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64. A document processing system for processing a plurality of currency bills to be deposited in a financial account of a customer, the currency scanning device comprising:

- a scanning device having
- 5 an input receptacle adapted to receive a plurality of currency bills,
- an image scanner adapted to obtain an image of a side of a currency bill and to extract an encoded data field from the image, the image scanner being adapted to create an image file containing the image of the currency bill,

10 a transport mechanism adapted to transport each of the plurality of
currency bills, one at a time, from the input receptacle past the
image scanner, to at least one output receptacle,
a controller coupled to the transport mechanism and the image scanner,
the controller adapted to control the operation of the transport
15 mechanism and the operation of the image scanner,
a discrimination and authentication unit adapted to determine the
denomination of each of the currency bills and to perform
counterfeit testing on the currency bills, the discrimination and
authentication unit being coupled to the controller, and
20 a memory communicatively coupled to the controller, the memory
adapted to store at least one encoded data field having stored
therein at least one encoded data field associated with
counterfeit currency bills, wherein the controller is adapted to
retrieve the at least one encoded data field from the memory and
25 to compare extracted encoded data fields to the at least one
stored encoded data field, wherein the scanning device is
adapted to reject any currency bills having a encoded data field
matching an encoded data field in the database.

65. A method for processing currency bills to be deposited in a financial account
belonging to a customer using a document scanning device having an image scanner,
the method comprising:

receiving a stack of currency bills into an input receptacle;
5 transporting each of the bills, one at a time, from the input receptacle to an
output receptacle;
obtaining an image of each of the currency bills with the image scanner;
extracting an encoded data field from each of the images of the currency bills;
creating an image file containing the full image and the extracted encoded data
10 field;
comparing the extracted encoded data field to a list of encoded data fields
associated with counterfeit bills and stored in a memory of the currency
scanning device; and

storing the image file in a memory.

66. A method for processing currency bills to be deposited in a financial account belonging to a customer using a document scanning device having an image scanner, the method comprising:

receiving a stack of currency bills into an input receptacle;

5 transporting each of the bills, one at a time, from the input receptacle to an output receptacle.

obtaining an image of each of the currency bills with the image scanner;

extracting a predetermined data field from each of the images of the currency bills;

10 creating an image file containing the full image and the extracted predetermined data field;

comparing the extracted predetermined data field to a list of predetermined data fields associated with counterfeit bills and stored in a memory of the currency scanning device; and

15 storing the image file in a memory.

67. A document scanning device for accepting currency bills and checks from a customer comprising:

a scanning device having

an input receptacle adapted to receive a plurality of documents,

5 an image scanner adapted to obtain an image of a side of a document and to extract a predetermined field from the image,

a transport mechanism adapted to transport each of the plurality of currency bills, one at a time, from the input receptacle past the image scanner, to at least one output receptacle,

10 an input device adapted to receive an account number from the customer,

a controller coupled to the transport mechanism and the image scanner, the controller adapted to control the operation of the transport mechanism and the operation of the image scanner, the controller further adapted to create an image file containing the

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image of the document, the predetermined field and the account number;

an evaluation unit adapted to determine the amount of processed documents, the evaluation unit coupled to the controller,

20 a memory coupled to the controller and adapted to store the image file, the memory being configured to be searchable by the predetermined field so that when a predetermined field is found to be associated with a counterfeit document, the memory can be searched for an image file containing the predetermined field
25 of the counterfeit document; and

a processor coupled to the scanning device and adapted to read an account number from an image file containing a predetermined field of a counterfeit document, the processor further adapted to debit a financial account associated with the account number for
30 the amount of the counterfeit document.

10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300 310 320 330 340 350 360 370 380 390 400 410 420 430 440 450 460 470 480 490 500 510 520 530 540 550 560 570 580 590 600 610 620 630 640 650 660 670 680 690 700 710 720 730 740 750 760 770 780 790 800 810 820 830 840 850 860 870 880 890 900 910 920 930 940 950 960 970 980 990 1000